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REMARKS

Entry of this Response is proper under 37 CFR §1.116, since no new claims or issues are presented.

It is noted that, notwithstanding any claim amendments made herein, Applicant's intent is to encompass equivalents of all claim elements, even if amended herein or later during prosecution.

Claims 1-20 are all of the claims pending in the present Application. Claims 1, 2, 4, 5, 7, 8, 10, 11, 13, 14, 16, 17, and 19 stand rejected under 35 USC §103(a) as unpatentable over US Patent 6,370,560 to Robertazzi et al., further in view of US Patent 6,105,053 to Kimmel et al. Claims 3, 9, and 15 stand rejected under 35 USC §103(a) as unpatentable over Robertazzi, further in view of Kimmel, and further in view of US Patent 6,400,996 to Hoffberg et al. Claims 6, 12, and 18 stand rejected under 35 USC §103(a) as unpatentable over Robertazzi, further in view of Kimmel, and further in view of US Patent Application Publication US 2001/0054094 A1 to Hirata et al.

These rejections are respectfully traversed in view of the following discussion.

I. THE CLAIMED INVENTION

As described and defined by, for example, independent claim 1, the present invention is directed to a computer-implemented method for determining a listing of hosts on a network to perform a parallel application, including determining a listing of all possible hosts on the network for performing the parallel application. For each of the possible host a <u>current capacity</u> and a <u>current utilization</u> is determined and a <u>difference between the current capacity and the current utilization</u> is calculated. A listing of hosts is selected from the listing of all possible hosts, based on sorting the calculated differences.

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II. THE PRIOR ART REJECTIONS

The Examiner alleges that Robertazzi, when modified by Kimmel, renders obvious the invention defined by claims 1, 2, 4, 5, 7, 8, 10, 11, 13, 14, 16, 17, and 19. The Examiner further alleges that Robertazzi/Kimmel, when further modified by Hoffberg, renders obvious claims 3, 9, and 15, and, when further modified by Hirata, renders obvious claims 6, 12, and 18.

Applicants respectfully disagree, and in preparation for Appeal, submit the following Applicants' response to Examiner's Response to Arguments, beginning on the last line of page 6 of the Office Action.

In Paragraph 24 on page 7, the Examiner states: "*The current capacity is the cost. The current utilization is how many segments of the divisible load. [sic] The difference between the current capacity and the current utilization is merely the segment portion of the load that is available to process [sic](see Abstract and col. 6, lines 15-36).*"

Applicants submit that, although the Examiner's response is somewhat garbled, as best understood, the Examiner's statements directly contradict the plain meaning of the language in Robertazzi. The Examiner first attempts to equate "current capacity" with "cost".

The "cost" in Robertazzi, by which term Applicants presume the Examiner intends to mean "resource utilization cost" of each processor, is variously described throughout Robertazzi.

For example, at line 63 of column 2 through line 8 of column 3, the utilization cost of each processor is clearly a pre-calculated number based on various historical factors, including operational cost of the processor itself and its platform, percentage of the purchase price, or supply and demand of the processor platform. At lines 18-59 of column 4, this concept is confirmed that "cost" in Robertazzi is a calculation based on historical data for various factors of each processor/platform, as confirmed also by items 187 and 189 in Figure 1c.

Therefore, Applicants presume that the Examiner intends that Robertazzi's "resource utilization cost" is equivalent to "current capacity", and the Examiner would have the initial burden of demonstrating how Robertazzi then calculates, for each processor/platform, a

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difference between this "resource utilization cost" and some other entity reasonably related to "current utilization."

However, Applicants submit that, to one of ordinary skill in the art, there is no such calculation in Robertazzi, as follows. As clearly described at lines 9-14 of column 3, the purpose in Robertazzi is to minimize the cost by using the least expensive processors, as measured by the utilization cost associated with each processor, while ensuring that the processing will be finished within an acceptable time limit. This algorithm is confirmed in Figure 2A, by noting that the cheapest available processor is given a load segment, the next cheapest available processor is given the next segment, etc., as further described at lines 34-60 of column 8. Thus, the method in Robertazzi clearly selects the cheapest available processors, in sequence, and assigns them load segments, further in view of the time constraints.

Applicants submit that, to one of ordinary skill in the art, Robertazzi has no step in which determines the difference between current capacity and current utilization, as required by the plain meaning of the claim language.

Thus, the method in Robertazzi is clearly different from the method described in the independent claims. That is, in the present invention, the current capacity of each host is described by a vector that describes the capabilities of that host, and the current utilization is a measure, also expressed as a vector, that describes how much of that capacity is currently being utilized. The difference between these two vectors describes how much capacity that host currently has left over.

Robertazzi clearly has no corresponding technique that attempts to describe the current capability/utilization as a vector that can be substracted to measure current availability of each processor's capability, let alone a sorting of these differences for all of the potential hosts on the network.

Thus, even if "resource utilization cost" is considered as a measurement of "current capacity", there is no mechanism in Robertazzi in which there is determined a difference between this "resource utilizization cost" and some other measured entity related to current utilization, let alone a sorting procedure to select processors to be used. As clearly

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demonstrated in Figure 2A, Robertazzi merely selects, sequentially, the cheapest processors available.

Applicants submit that, to one of ordinary skill in the art, this selection process in Robertazzi is clearly different from that described in the independent claims, in which is calculated a <u>difference between current capacity and current utilization</u>.

None of the secondary references overcome this basic deficiency of Robertazzi, and the technique in Robertazzi would have to be improperly modified in order to overcome this basic deficiency that there is no step in Robertazzi in which is calculated a difference between current capacity and current utilization for each potential processor. That is, the Examiner relies upon Kimmel for demonstrating listing of a hierarchical tree structure, upon Hoffberg for demonstrating parallel-processing in real-time, and upon Hirata for demonstrating normalizing.

However, even if these secondary references were to be considered as properly combinable with Robertazzi, none of them overcomes the basic deficiency in the primary reference identified above.

Hence, turning to the clear language of the claims, in Robertazzi, there is no teaching or suggestion of: "... determining for each of said possible host a <u>current capacity and a current utilization</u>; calculating for each of said possible host a <u>difference between said current capacity and said current utilization</u>; and selecting from said listing of all possible hosts a listing of hosts based on sorting said calculated differences ", as required by the independent claims.

For this reason alone, the present invention is clearly patentable over Robertazzi.

Relative to the Examiner's statement in paragraph 25 on page 7 that references are combinable simply by reason that both are "... in the same field of endeavor", Applicants respectfully direct the Examiner's attention to MPEP §2143.01, wherein are listed any number of rationales from case law in which references are <u>not</u> properly combinable. Perhaps most significant is the rationale described in MPEP 2143.01: "*If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims* prima facie *obvious*."

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As explained above, the method shown in Figure 2A of Robertazzi clearly
demonstrates a principle of selecting the processors in the cost minimization method of that
reference as merely selecting the cheapest processor. There is no step in which a <u>difference</u> is
determined in order to make these selections. It is clear that the principle used to make the
selection in Robertazzi would have to change entirely in order to incorporate a determination
of a difference from "resource utilization cost" as a mechanism for selecting the processors to
be used, since there is needed a number that can be meaningfully subtracted from the
"resource utilization cost". It is for this reason that Applicants again point out that
Robertazzi cannot even be used as the primary reference in the prior art evaluation of the
present invention.

For purpose of Appeal, Applicants further identify the following deficiencies of the
rejection currently of record.

First, relative to claim 2, 8, 14, the rejection currently of record points to lines 21-33
of column 1 of Robertazzi. Applicants submit that, to one of ordinary skill in the art, this
description of explaining parallel processing is not the same as saying that the processing of
the load segmentation and allocation is also done as a parallel processing.

Relative to the rejection for claim 4, 10, 13, 16, Applicants submit that lines 30-33 of
column 1 clearly disputes the Examiner's allegation that it is an inherent that an operating
system be involved. That is, this description clearly states that the indivisible load or task is
"... one that cannot be divided into two or more smaller fragments to be distributed among
multiple processors but requires that the load be processed by a single processor."
Applicants submit that this description does not in any way require that an operating system
inherently be involved to give "... the instructions for task management and parallel
processing", as characterized by the Examiner.

Moreover, Applicants submit that the <u>plain meaning</u> of the claim language requires
that it is the <u>selected listing of hosts</u> be provided to an operating system.

Relative to the rejection for claims 3, 9, and 15, Applicants submit that the flowcharts
in Figures 2A-2C clearly reflect that the allocation of the load segments is done as a
<u>preliminary step</u> to execution, not as a real-time allocation as the processing is being
executed.

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Relative to the rejection for claims 6, 12, and 18, Applicants submit that the Examiner has the initial burden of demonstrating a reasonable subtraction in Robertazzi that can be normalized. The rejection currently of record cannot be considered as demonstrating, to one of ordinary skill in the art, that a normalization of the selection process of Figures 2A-2C in Robertazzi is even possible, even as described by the Examiner in paragraph 24 on page 7 of the Office Action.

III. FORMAL MATTERS AND CONCLUSION

The Examiner requested that the "Cross Reference" section in the specification be updated. Applicants have no updates at this time, except cancellation of this section, since, as far as can be determined at this time, none of these additional disclosures were submitted as Applications. Applicants will re-instate this section as appropriate, should any other update be found as being more appropriate.

In view of the foregoing, Applicant submits that claims 1-20, all the claims presently pending in the application, are patentably distinct over the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue at the earliest possible time.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

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The Commissioner is hereby authorized to charge any deficiency in fees or to credit
any overpayment in fees to Assignee's Deposit Account No. 09-0456.

Respectfully Submitted,

Date: 6/20/05

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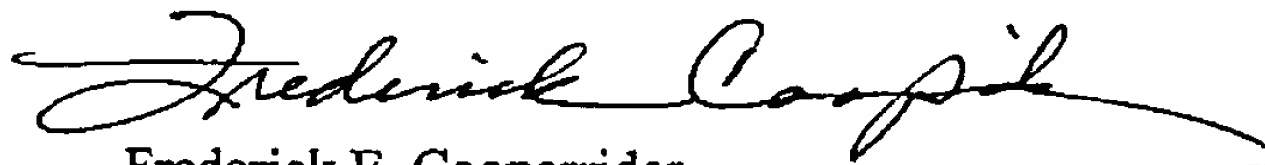8321 Old Courthouse Road, Suite 200
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CERTIFICATION OF TRANSMISSION

I certify that I transmitted via facsimile to (703) 872-9306 this Amendment under 37 CFR
§1.116 to Examiner K. Tang on June 20, 2005.

Frederick E. Cooperrider
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